

REMARKS

Attached hereto is an Excess Claims Fee Letter and fee.

Also attached hereto is an Extension of Time Letter and fee for a one month time extension.

Claims 1-14, 16-21, and 23-64 are all of the claims pending in the present Application. New claims 37-64 are added above, and an explanation of their significance relative to the prior art of record is further discussed later. Claims 6-14, 16, 21, and 23-25 are allowed. Applicants gratefully acknowledge the Examiner's indication that claims 27 and 35 would be allowable if rewritten in independent format and have accordingly rewritten these claims.

Claims 1, 2, 18, 26, 28, 30, 33, and 34 stand rejected under 35 USC §102 (b) as anticipated by Japanese Patent JP-09-148810 to Ishitobi, and claims 5 and 29 stand rejected under 35 USC §103(a) as unpatentable over Ishitobi. Claims 3, 19, and 31 stand under 35 USC §103(a) as unpatentable over Ishitobi, further in view of US Patent 5,796,318 to Ando et al. Claims 4, 17, 20, and 32 stand under 35 USC §103(a) as unpatentable over Ishitobi, further in view of Ando et al., and further in view of US Patent 5,764,115 to Hatton.

These rejections are respectfully traversed in view of the following discussion.

It is noted that the claims have been amended solely to more particularly point out the present invention for the Examiner, and not for distinguishing over the prior art or for statutory requirements directed to patentability. It is further noted that, notwithstanding any claim amendments made herein, Applicants' intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

I. THE CLAIMED INVENTION

As described and claimed, for example by amended claim 1, the present invention is directed to a dielectric resonator includes a dielectric block having a generally rectangular parallelepiped shape. At least two edges of the dielectric block are chamfered in a manner to provide a coupling of three resonant modes of the dielectric block. A first chamfered edge is parallel to a y axis, and a second chamfered edge is parallel to a z axis. The first chamfered edge does not intersect the second chamfered edge.

The present invention has a number of advantages over the conventional art, including a feature that the various modes are simultaneously coupled.

II. THE PRIOR ART REJECTION

The Examiner alleges that JP-09-148810 to Ishitobi anticipates claims 1, 2, 18, 26, 28, 30, 33, and 34, renders obvious claims 5 and 29, renders obvious claims 3, 19, and 31 in view of Ando, and renders obvious claims 4, 17, 20, and 32 in view of Ando, further in view of Hattori.

However, a key feature of the present invention is that specific ridges of the dielectric block are chamfered. A first chamfered edge is parallel to a y axis, a second chamfered edge is parallel to a z axis, and these edges do not intersect. Ishitobi fails to teach this feature since the chamfered edges are parallel to the x-axis and y-axis and do intersect.

This feature allows a coupling so that all three resonant modes are intercoupled. That is, unlike the coupling in Ishitobi in which $K_{13} = 0$, in the present invention, $K_{13} \neq 0$.

Hence, turning to the clear language of the claims, relative to claim 1, there is no teaching or suggestion of “... wherein a first chamfered edge is parallel to a y-axis, a second

chamfered edge is parallel to a z-axis, and said first chamfered edge does not intersect said second chamfered edge", as required by claim 1. Independent claims 26 and 28 have similar wording. Neither the Ando nor the Hattori reference overcomes this deficiency.

For this reason, the claimed invention is fully patentable over the cited references.

Further, the other prior art of record has been reviewed, but it too, even in combination with Ishitobi, Ando, or Hattori, fails to teach or suggest the claimed invention.

Relative to the new claims 39-49, one aspect of the present invention is that it is comprised of a "dielectric block". The word "block" is significant in that it describes that the dielectric substance consists of a simple substance, which possesses a dielectric characteristic. Therefore, as illustrated by Figure 2b of the present Application, magnetic fields protrude from the dielectric block.

In contrast, as clearly described in paragraph 8, the resonator configuration of Ishitobi includes a metal external wall(s). Therefore, as illustrated in Figure 1, 2, and 3 of Ishitobi, the magnetic fields do not protrude from the dielectric interior. A consequence of this basic configuration difference is that the couplings of the three resonant modes of the dielectric block of the present invention are inherently completely different from those of Ishitobi.

III. FORMAL MATTERS AND CONCLUSION

The Examiner also objected to the drawings for failing to show the dielectric supports described by claim 36. Applicants submit under separate cover a proposed drawing change to address this objection.

In view of the foregoing, Applicant submits that claims 1-14, 16-21, and 23-64, all the claims presently pending in the application, are patentably distinct over the prior art of record

and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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